



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,791	10/01/2003	Gerd Zimmermann	4114-8	3670

23117 7590 08/23/2005

NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER

CAI, WAYNE HUU

ART UNIT PAPER NUMBER

2681

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/674,791

Applicant(s)

ZIMMERMANN ET AL.

Examiner

Wayne Cai

Art Unit

2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 16-20 is/are rejected.
- 7) ☒ Claim(s) 14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 17-18 are objected to because of the following informalities: an independent claim 1 is a "method" claim, and claims 17-18 are "computer program product" claims. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3-5, 9, 17, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kossi et al (hereinafter Kossi) (US – 6,912,204 B2).

Regarding claims 1, 17, and 19, Kossi discloses a method, a system, and a computer program product of controlling frequency selection in a wireless communication system in response to radar-like interference signals, comprising:

a) continuously or quasi-continuously monitoring and assessing one or more frequencies with respect to the radar-like interference signals (col. 6, lines 48-56);

b) allocating a quality parameter to each assessed frequency, the quality parameter indicating a probability that the frequency is occupied by a radar-like interference signal (col. 7, lines 4-13);

c) selecting one or more frequencies in dependence on the allocated quality parameters (col. 7, lines 14-29);

d) further monitoring one or more frequencies with respect to radar-like interference signals (col. 6, lines 56-66).

Regarding claim 3, Kossi discloses the method according to claim 1 as described above. It is inherent that the quality parameter can assume any value between a lower quality order value and an upper quality border value.

Regarding claim 4, Kossi discloses the method according to claim 1 as described above. Kossi also discloses wherein in step c) only those frequencies are selected to which quality parameters satisfying a threshold condition are allocated (col. 7, lines 14-29).

Regarding claim 5, Kossi discloses the method according to claim 1 as described above. Kossi also discloses wherein at least step a) is performed during a normal transmission mode (col. 6, lines 3-32).

Regarding claim 9, Kossi discloses the method according to claim 1 as described above. Kossi also discloses wherein, if at least one of the radar-like interference signals and other interference signals are detected in step d), steps a) to c) are repeated (col. 6, lines 56-67).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kossi in view of Wallstedt et al (hereinafter Walstedt) (US – 6,466,793 B1).

Regarding claim 2, Kossi discloses the method according to claim 1 as described above, except for the quality parameter can assume one of a plurality of pre-defined values, a first value indicating that a frequency is occupied, a second value indicating that a frequency is not occupied, and a third value indicating that a frequency might be occupied.

In a similar endeavor, Wallstedt discloses an automatic frequency allocation (AFA) for wireless office systems sharing the spectrum with public systems. Wallstedt also discloses the quality parameter can assume one of a plurality of pre-defined values, a first value indicating that a frequency is occupied, a second value indicating that a frequency is not occupied (col. 1, line 59 – col. 2, line 2), and except for a third value indicating that a frequency might be occupied.

However, it is obvious to one skill in the art to arrive at the invention with the third value indicating that a frequency might be occupied since it is obvious to include different quality parameters in controlling the frequency selections in wireless

communications so that the systems could determine when to switch to the other frequency bands.

Regarding claim 16, Kossi discloses the method according to claim 1 as described above, except for disclosing wherein prior to switching from a first transmission frequency to a second transmission frequency, the second transmission frequency is subjected to at least steps a) and b).

In a similar endeavor, Wallstedt discloses an automatic frequency allocation (AFA) for wireless office systems sharing the spectrum with public systems. Wallstedt also discloses wherein prior to switching from a first transmission frequency to a second transmission frequency, the second transmission frequency is subjected to at least steps a) and b) (col. 5, line 45 – col. 6, line 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the step of monitoring and allocating quality parameters so that it switches the transmission frequency only when required.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kossi in view of Wiese et al (hereinafter Wiese) (US – 6,404,830 B2).

Regarding claim 6, Kossi discloses the method according to claim 1 as described above, except for disclosing wherein at least step a) is performed prior to a normal transmission mode.

In a similar endeavor, Wiese discloses a digital radio frequency interference canceller. Wiese also discloses wherein at least step a) is performed prior to a normal transmission mode (fig. 11, element 1102, and its descriptions).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the step of monitoring prior to a normal transmission mode so that the interference signals could be prevented in advance.

7. Claims 7-8, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kossi in view of Gray (US 2002/0160769 A1).

Regarding claim 7, Kossi discloses the method according to claim 1 as described above, except for disclosing wherein at least step a) is performed by a separate monitoring device (MD) in communication with at least one of an access point (AP) and a central controller (CC) of the wireless communication system.

In a similar endeavor, Gray discloses an apparatus and associated method for reporting a measurement summary in a radio communication system. Gray also discloses wherein at least step a) is performed by a separate monitoring device (MD) in communication with at least one of an access point (AP) and a central controller (CC) of the wireless communication system (fig. 1, elements 14, 18, and 46 and its descriptions).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the monitoring device, access point, and central controller to communicate with each other in detecting the interference signals.

Regarding claim 8, Kossi discloses the method according to claim 1 as described above, except for comprising communicating the allocated quality parameters

Art Unit: 2681

to an access point (AP) or a central controller (CC) of the same or a neighboring wireless communication system.

In a similar endeavor, Gray discloses an apparatus and associated method for reporting a measurement summary in a radio communication system. Gray also discloses comprising communicating the allocated quality parameters to an access point (AP) or a central controller (CC) of the same or a neighboring wireless communication system (paragraphs 0044-0046).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the step of communicating the allocated quality parameters to an access point so that the frequency range could be selected.

Regarding claim 20, Kossi discloses the wireless communication system of claim 19 as described above, except for disclosing a monitoring device (MD) associated with or remote from at least one of an access point (AP) or a central controller (CC), wherein the monitoring device (MD) includes at least the first unit for continuously or quasi-continuously monitoring and assessing one or more frequencies with respect to the radar-like interference signals.

In a similar endeavor, Gray discloses an apparatus and associated method for reporting a measurement summary in a radio communication system. Gray also discloses a monitoring device (MD) associated with or remote from at least one of an access point (AP) or a central controller (CC), wherein the monitoring device (MD) includes at least the first unit for continuously or quasi-continuously monitoring and

assessing one or more frequencies with respect to the radar-like interference signals (paragraphs 0043-0046; fig. 1 and its descriptions).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a monitoring device, access point, central controller to monitor, and report the radar-like interference signals.

8. Claims 10-13, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kossi in view of Meredith et al (hereinafter Meredith) (US – 6,052,605).

Regarding claim 10, Kossi discloses the method according to claim 1 as described above, except for disclosing wherein during regular operation receive/transmit pauses are artificially created.

In a similar endeavor, Meredith discloses a continuous interference assessment and avoidance in a land mobile radio system. Meredith also discloses wherein during regular operation receive/transmit pauses are artificially created (col. 2, lines 28-40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include artificial pauses in order to switch from one frequency to another during the operation.

Regarding claims 11, and 12, Kossi discloses the method according to claim 1 as described above, except for disclosing wherein step d) comprises periodically monitoring one or more of the selected frequencies to assess an average quality thereof, transmitting on the one or more frequencies having the highest average quality.

In a similar endeavor, Meredith discloses a continuous interference assessment and avoidance in a land mobile radio system. Meredith also discloses periodically monitoring one or more of the selected frequencies to assess an average quality thereof (col. 2, lines 41-46). Even though, Meredith does not specifically disclose transmitting on the one or more frequencies having the highest average quality. It is however, obvious to one skilled in the art to transmit the highest average quality since the average quality has been obtained by monitoring, and calculated.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the step of monitoring periodically and transmit the highest average quality since periodically monitor enhances the ability the obtain data more accurately and detect interference signals more effective.

Regarding claim 13, Kossi and Meredith disclose the method of claim 12 as described above. Meredith also discloses wherein after a predefined period of time the method returns to step a) (col. 2, lines 41-45).

Regarding claim 18, the computer program product of claim 17. Meredith also discloses stored on a computer readable recording medium (col. 2, lines 41-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include storage for keeping data for later usage.

Allowable Subject Matter


9. Claims 14 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne Cai whose telephone number is (571) 272-7798. The examiner can normally be reached on Monday-Friday, 9:00-6:00; alternating Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Wayne Cai
Examiner
Art Unit 2681


ERIKA A. GARY
PRIMARY EXAMINER